

**City Scottsdale**  
**Proposed 2021 International Energy Conservation Code (IECC)**  
**Amendment Highlights**

| <b>A. Cool Roofs</b>   |  |
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| <b>Single Family, Multifamily and Commercial</b>   | <b>Expected Outcome</b>  |
| <p><b>Cool Roofs.</b> Low-sloped (less than 2 in 12) <u>roof surfaces over conditioned and unconditioned spaces</u> shall be provided with a 1) minimum solar reflectance index of 64 or 2) minimum solar reflectance of 0.55 with a thermal emittance of 0.75.</p>  | <p>A cool roof uses solar reflectance and thermal emittance to help mitigate urban heat island sinks. Solar reflectance deflects sunlight and heat away from a building thereby reducing roof temperatures. Thermal emittance is the ability of a surface material to emit heat. Coupled together, these properties help roofs to absorb less heat and stay up to 50 - 60°F cooler than conventional materials during peak summer weather (EPA).</p>   |
| <b>B. Electric Vehicle Charging Infrastructure</b>   |  |
| <b>Single Family Dwellings</b>   | <b>Expected Outcomes</b>   |
| <p><b>EV capable charging spaces.</b> The main electrical service panel shall have a reserved space to allow for the installation of a full size 2-pole circuit breaker and shall be labeled “Future EV Charging”.</p>   | <p>Given that transportation accounts for nearly 30% of greenhouse gas emissions, providing EV charging infrastructure for new home, multifamily and hotel construction will help accelerate the move towards net zero emissions.</p>  |
| <b>Multifamily and Hotels</b>  | <p>By 2030, US EV sales are expected to reach 30% of all new car sales.</p> <p>It is estimated that the installation of EV charging infrastructure can be 3 to 4 times less expensive when installed during construction as opposed to retrofitting after the building is built.</p>   |
| <b>C. Additional Efficiency Package Options</b>  |  |
| <b>Single Family Dwellings</b>   | <b>Expected Outcomes</b>   |
| <p>The energy code requires additional energy efficiency measures above the minimum thermal envelope requirements for enhanced energy performance. This <u>amendment</u> adds a sixth option for on-site renewable energy:</p> <p><u>Option 1</u> - Enhanced thermal envelope</p> <p><u>Option 2</u> - More efficient HVAC equipment</p> <p><u>Option 3</u> - More efficient water-heating equipment</p> <p><u>Option 4</u> - More efficient duct distribution system</p> <p><u>Option 5</u> – More efficient ventilation system</p> <p><u>Option 6</u> - On-site renewable energy</p> | <p>Providing an on-site renewable energy system will comply with the additional efficiency requirements of the code when the system meets one of the following:</p> <ol style="list-style-type: none"> <li>1. Provide a total rated capacity of not less than 2 watts per square foot of <i>conditioned floor area</i>.</li> <li>2. Provide not less 50 percent of the estimated annual energy use within the building for mechanical, service water-heating, lighting and electric vehicle charging.</li> </ol> |